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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,414	01/25/2002	John F. Shanley	032304-040	9725

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EXAMINER

THALER, MICHAEL H

ART UNIT	PAPER NUMBER
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3731

DATE MAILED: 09/04/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/057,414

Applicant(s)

SHANLEY, JOHN F.

Examiner

Michael Thaler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 48-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 48-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 3, 5. 6) ☐ Other: _____
- 7, 9

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The disclosure is objected to because of the following informalities: The text on page 14 from lines 2 to 7 is confusing and is not understood. If a pivot point were located at end 254 of hinge 250, the initial motion of tip 235 would appear to be circular and clockwise in a direction perpendicular (rather than parallel as stated) to the axis of pawl 230. Appropriate correction is required.

Claims 48-54, 56 and 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 48 is confusing and inaccurate since the hinges are tapered along only a portion of their length (as defined in claim 50, for example) rather than from the first end to the second end as defined in claim 48, line 9. In claim 54, line 3 and claim 63, line 3, there is no antecedent basis for "the ductile hinge". Further, it is not clear that the hinges are ductile. Claim 56 is confusing and inaccurate since the hinges do not experience plastic deformation as indicated on page 9, lines 16-20 and page 16, lines 16-19 for example.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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Claims 48-53 and 55-62 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Drasler et al. (6,451,051). Drasler et al., in figures 10A-10D, disclose beams 370, hinges (either portion 455 which is smaller in hinge width $42\frac{0}{3}$ than the beam width 430 and tapered in width $42\frac{0}{3}$ as shown in figure 10C or the combination of portion 455 and the transition region 410 which is also smaller in hinge width than the beam width and tapered in width) wherein the hinges each have a first end connected to a first of the elongate beams and a second end connected to a second of the elongate beams (via the remainder of node 365). Alternatively, it would have been obvious that transition region 410 may be considered as part of a hinge since is it reduced in width as compared to the beams 370 and is directly attached to portion 455. As to claim 50, about $\frac{2}{3}$ of the length of the hinge is tapered although it appears that most of the remainder of the hinge is also tapered. As to claim 51, note col. 38, lines 37-42 of Drasler et al. As to claim 52, deformation during expansion is confined to the hinge, noting that beams 370 remain straight during expansion as shown in figure 10B. As to claim 53, Drasler et al. disclose a structure 250 adjacent the hinge (col. 45, lines 1-3) which experiences two degrees of freedom of motion during expansion (1, the pivoting of barb 250 from the

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position shown in figure 11B to the position shown in figure 11D wherein the pivot point is near node 365 and 2, the straightening of the barb along its entire length from the curved configuration shown in figure 11B to a straight configuration as shown in figure 11D as it pivots as indicated above). As to claim 55, the Drasler et al. hinge width, length and taper are inherently adjusted (i.e. chosen, when it is manufactured) such that they inherently achieve a particular value of maximum strain along the hinge (which is chosen by the designer of the device).

Claims 48-50, 52, 54-59, 61 and 63 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kranz (WO 98/18407). Kranz in figures 1 and 2a-c, disclose beams (at the end of the lead line for reference numeral 4 in figure 1), hinges (the narrowed regions in combination with the tapered transition portions at each end of the narrowed regions). Alternatively, it would have been obvious that each tapered, transition regions may be considered as part of a hinge since it is reduced in width as compared to the beams and is directly attached to the narrow portion. As to claims 54 and 63, the narrowed region and only the tapered portion closest to the apex of the V-shape of the Kranz device may be considered to be the claimed hinge. This Kranz hinge is tapered such that an end

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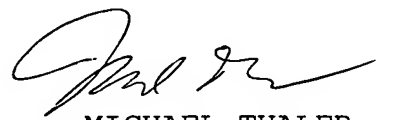
closest to the apex of the V-shape has a width which is greater than the width of the hinge at an opposite end.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Thaler whose telephone number is (703) 308-2981. The examiner can normally be reached Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Milano can be reached on (703)308-2496. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3590 for regular communications and (703)305-3590 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0858.

mht
September 3, 2003



MICHAEL THALER
PRIMARY EXAMINER
ART UNIT 3731